

Amendments to the Specification

Amend the paragraph starting on page 1 at line 14 as follows:

Some modern oscilloscopes are equipped with a printer, contained within its cabinet, for printing oscilloscope traces and data on a roll of paper. One might think that the solution to the above-described problem would be to merely print the long record length ~~wave-form~~ waveform out and then examine the paper trace. Unfortunately, calculations reveal that in order to print out even an 8 Mbit record would require a paper printout on the order of several miles long.

Amend the paragraph starting on page 1 at line 22 as follows:

A gate comparator control panel, in accordance with the subject invention, allows a user to define up to four different gate regions that may exist on any of the live waveforms, ~~maths~~ waveforms, or REF waveforms. A menu for each gate controls the position of each gate and selects the source for the signal that is to be gated. All gates must be the same width. A high level application copies the gated region of a waveform into a REF memory. For example, Gate 1 would go into REF 1, gate 2 into REF2 and so on. A user-settable tolerance value is used to determine if a difference between the waveforms of the gates reaches a point at which a violation is indicated. A master gate position control causes all gates to move by the same amount, thus maintaining a constant distance between them. A master gate width control causes all gates to change width. Run, pause, and stop menu items are used to control how the gates automatically scan through the waveforms to which they are attached, and to maintain constant spacing between them. A comparison is performed on a point-by-point basis between the signals of the gates.

Amend the paragraph starting on page 3 at line 16 as follows:

With respect to measurements and waveform ~~math~~ equations, the gated regions that are stored in REF memories (to be described later) may have

measurements applied to them. In addition, they may be used within waveform math expressions. This feature is shown by the equation displayed at the bottom of the screen display of FIGURE 2.

Amend the paragraph starting on page 3 at line 28 as follows:

FIGURES 4A and 4B are illustrations showing the gated regions of FIGURE 3 after they have been copied into a reference memory in accordance with the subject invention. Note that only the gated portions of the data are stored in the reference memories. In this way, efficiency of measurements and waveform ~~math~~ equations is improved because only the data of interest is included in the measurement or ~~math~~ calculations.

Amend the paragraph starting on page 4 at line 15 as follows:

This gate comparator system when taken as a whole is unique in its organization of gating controls and functionality. Prior oscilloscopes do not have a single entity called a gate comparator as is described herein. Such prior oscilloscopes accomplish a somewhat gating-like feature by defining a ~~math~~ waveform equation. That is, the user is allowed to create zoom waveforms. Each one is stored into a waveform ~~math~~ equation slot, precluding the use of that slot for a mathematical function. As a result, if four zoom waveforms are defined, they cannot then be used in waveform ~~math~~ functions. In contrast, the subject invention can utilize gating functions without tying-up the waveform slots, while preserving the ability to use mathematical functions.